

REMARKS

Applicant respectfully requests reconsideration of the present application in view of the foregoing amendments and in view of the reasons that follow.

Claims 12 and 28 are requested to be cancelled, since those claims have effectively been rewritten in independent form by placing their subject matter in their respective parent independent claim.

Claims 10, 11, 20, 26 and 29 are currently being amended. No new claims are being added.

This amendment adds, changes and/or deletes claims in this application. A detailed listing of all claims that are, or were, in the application, irrespective of whether the claim(s) remain under examination in the application, is presented, with an appropriate defined status identifier.

After amending the claims as set forth above, claims 10-11, 13-14, 16-23, 25-27 and 29-31 are now pending in this application. The number of claims has been reduced, and the claims have been amended to remove Section 112 issues. Entry of this amendment is respectfully requested, inasmuch as it merely incorporates subject matter from a dependent claim into each of the independent claims, cancels claims and amends claims to overcome § 112 issues. The amendment should be entered at least because it removes issues for appeal.

A Declaration under 37 CFR 1.132 by Werner Oswald, a person of ordinary skill in the art to which the invention pertains, is submitted with this response.

Section 112, 1st Paragraph Rejection

The stated grounds of rejection are believed to be overcome for the following reasons:

1. The range of thickness recited in claim 14 is found in originally filed claim 6 of the application.

2. Claim 26 has been amended to follow more closely the language appearing at page 6, lines 16-25, of the specification.

Section 112, 2nd Paragraph Rejection

Claim 20 has been amended to remove the objected-to terminology regarding “normal tolerance.” The specification makes clear that the webs are formed during the tube manufacturing process, such that any variations in web length occur during that process.

It is believed that the language of the claims fully satisfies the requirements of 35 U.S.C. § 112, paragraphs 1 & 2. Reconsideration and withdrawal of the rejections are therefore respectfully requested.

Rejections Based on Prior Art

It is also respectfully requested that the rejection of claims 10-14 and 19-21, 23 and 25-31 under 35 U.S.C. § 103 based upon FR 27 80 153 (“FR ‘153”) in view of certain alleged AAPA or, in the case of claims 16-18, in view of US 5,704,423 to Letrange (“Letrange”) be reconsidered and withdrawn. For reasons set forth below, Applicants respectfully submit that the claims are patentable over the cited prior art.

Initially, as noted above, the subject matter of dependent claim 28 has been incorporated into independent claim 10, and the subject matter of dependent claim 12 has been incorporated into independent claim 11. With regard to the specific dimensional aspects now contained in the independent claims (and previously in dependent claims 12 and 28), the PTO has not addressed these features, which are clearly important to accomplishing the objectives of the present invention, other than to allege that they would be obvious because the structure of the primary reference is *generally the same* as that of the claimed invention, i.e., obvious to optimize, per *In re Aller*. For several reasons, this treatment is inappropriate and inadequate.

The idea of routine “optimization” according to cases such as *Aller* has no application whatsoever to a situation such as the present, in which the claimed design has a completely different purpose than the prior art, i.e., “optimization” has to be *for a purpose*, and in this case the purpose of the reference is *not the same as that of the invention*. Further, this

rationale has no application especially where the skilled person is not free to modify the prior art due to important restrictions placed by the prior art on the shape required to accomplish the objectives of the prior art. The law is clear that the PTO may not simply allege “obvious to optimize” whenever it cannot find a concrete teaching in the art, and furthermore that the PTO cannot properly base a rejection on a modification of a prior art reference that contradicts the purpose of that reference, as here. That the height of the embossment is less than one half of the thickness of the web is certainly neither shown by FR ‘153 nor is it conceivably within the “obvious design range” of the reference since it is neither shown nor is it physically possible to produce a V-shape having a depth less than one half of the wall thickness.

Initially, the person skilled in the art would never consider modifying the tube structure of FR ‘153 to arrive at the tube configuration claimed herein; in fact, he could not do so consistent with the teachings of that reference. The indentation is placed in the tube of FR ‘153 for a completely different purpose than the embossment of the present invention. First, the purpose of providing two identical V-shaped indentations in opposing tube walls is to provide symmetry to the tube, i.e., so that assembly into the heat exchanger is simplified due to the fact that it is not necessary to first orient each tube in the same orientation (i.e., with all of the single-grooved sides facing in the same direction). Obviously, this is avoided if the two sides are symmetrical. See pages 1 and 2 and claim 7 of FR ‘153. Since the objective is to have indentation 34 match the V-shape that is necessarily formed by the creation of indentation 32, it would clearly not be suggested to provide a different shape for indentation 34, i.e., clearly not a shape such as is used according to the present invention.

The further implication of the FR ‘153 specification is that the V-shaped indentation 34 is put into the tube of that reference as a kind of reinforcing structure, to maintain the integrity of the joint formed at the end of the web, i.e., to avoid a breach between the separate and parallel tube passageways 24 and 26. See page 4, line 37 through page 5, line 17 of FR ‘153. Again, such a purpose for the indentation 34 is antithetical to the purpose for which the embossment is provided according to the present invention, i.e., to provide a “deformable” structure to compensate for tolerance variations of the web.

The PTO also fails to adequately address certain of the dependent claims. For example, claim 26 relates to another important advantage of the present invention, namely,

the ability to produce an uninterrupted braze between the fins and the tube in the area of the embossment. If the depth of the embossment is too great, this cannot be accomplished. FR '153 contains no teaching regarding this goal, which is another reason why the claimed invention is not "obvious" in view of the reference.

Similarly, claim 29 defines the surface (which is defined in claim 10 as "a surface *that contacts the end of the at least one web*") as having "a width that is at least twice the thickness of the flat strip." Looking at Fig. 3 of FR '153, the surface that is capable of contacting the web is clearly not at least twice the thickness of the wall material. Again, making the width of the "surface" a certain minimum length is important to the present invention, i.e., one cannot accomplish the compensation for extra length in the web unless a certain width of the embossment is present. In this regard, the PTO is invited to consider the Declaration of Werner Oswald that is submitted herewith. The calculations contained in this Declaration simply support and reinforce the argument that Applicants have consistently made, that the narrow, V-shaped indentation of FR '153 is not capable of "deforming" to compensate for excess length of the webs during the tube manufacturing process.

Further, claim 19 calls for the embossment to form a "resilient surface." The PTO has not explained how the structure of FR '153 can be deemed to form a resilient surface. Certainly it is neither inherent nor is there any teaching in the art to do so.

Notwithstanding that the PTO is not considering claim 10 under § 112, ¶6, this does not mean that the PTO can ignore the functional recitations in the claim. The present rejection is made under § 103, and the law is clear that every word in a claim must be considered in judging patentability under § 103. It is clear that the structure shown in the prior art has a different structure such that it does not and cannot function in the manner recited in the claims, and further that the prior art (which has a completely different purpose) likewise does not "teach" the claimed invention. The additional structural recitations included into claim 10 are clearly not shown or taught by FR '153.

Claim 11 contains additional structural recitations, including those added from claim 12. Contrary to the PTO's arguments, the normal meaning of "plateau" is that it defines a generally flat surface at its top, and the language of the present application is consistent with that normal definition. See, e.g., page 2, lines 35-36: "the embossment, which is level before the standardization" and see the Figures. See also claim 31. (Plateau is a French word,

deriving from the root “plat” which means “flat.”) According to the claim language, this flat surface has a width that is at least three times the thickness of the flat strip, and the embossment has a height that is less than half of the thickness of the flat strip. Such a structure is neither disclosed or suggested, for any reason, by FR ‘153.

Consequently, not only does the FR ‘153 reference not disclose the plateau (flat surface) structure and purpose of the embossments claimed in the present application, but the cited reference actually teaches away from any structure other than the V-shaped indentation disclosed therein, and ascribes a “reinforcement” purpose to the V-groove, which is just the opposite of the deformation function of the present invention. The FR ‘153 reference cannot, therefore, render “obvious” the presently claimed invention.

In view of these comments, it is respectfully submitted that independent claims 10 and 11, as well as all of the remaining claims that depend therefrom define subject matter that is patentable over the cited prior art. Various of the dependent claims are separately discussed above, as well. Further and favorable action in the form of a Notice of Allowance of all claims is believed to be next in order, and such action is courteously solicited.

Applicant believes that the present application is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested.

The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 19-0741. Should no proper payment be enclosed herewith, as by a check or credit card payment form being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 19-0741. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicant hereby petitions for such extension under 37 C.F.R. §1.136 and authorizes payment of any such extensions fees to Deposit Account No. 19-0741.

Respectfully submitted,

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